



R. L. Martin Snapped This Unusual  
Picture Of A Wheat Field Nestled  
Among The Sky-Piercing Peaks Of  
Kashmir, India. Taken Two Months  
Ago, William C. Engel, Vice Presi-  
dent, Standard Milling Company,  
Chicago, Shares Its Picturesque-  
ness With You

# Grain

OCTOBER, 1945





# DANGEROUS ONLY WHEN **CORNERED**

Given room to roam, a rattlesnake is a fairly decent citizen.  
*Corner him . . . and it is just too, too bad!*

A dust explosion, too, violently objects to being cornered.  
It is the nature of the beast to *expand* with cyclonic fury.

Robertson Safety Ventilators provide *room* for expansion  
. . . an EXIT through which dust explosions rush *harm-*  
*lessly* out into the open.

Robertson Safety Ventilators mounted on your elevator  
leg, also, provide a dependable safeguard against *primary*  
explosions by *continually* venting fine dust with gravity  
action.

Play safe with Robertson Safety Ventilators. Write today  
for complete particulars.

H. H. **ROBERTSON** CO.

Farmers Bank Bldg.

Pittsburgh, Pa.



# C.P.R. Explosion Gives First Clue To Unraveling Spontaneity Mystery

*Why Have Grain Plants Long Shut Down Suddenly Blown to Bits? RAY J. O'LEARY of Corn Products Refining Company's Industrial Relations Department, Chicago, Also Unveils the Whys and Wherefores of the "Rotten Egg" Smell Reported so Evident at Other Blow-Ups.*

**W**E recently experienced an explosion in the vapor stack of a steam drier for finished feed. The stack was of brick construction and used as a means of natural draught.

We had been grinding wheat but the feed driers were down for a period of 32 hours and were started up between 1:00 p. m. and 2:00 p. m., running empty until about 3:30 p. m., when feed was started to them. The heat was put on when the feed was started, although the flow of the feed was erratic, as it always is at first.

Approximately one and one-quarter hours later an explosion was heard and a yellow flash was observed coming from the discharge end of the drier, followed by a gust of wind. Feed and dust were found burning.

While there was no damage due to the fire, it being extinguished immediately, the structural damage to the stack from the explosion was so extensive as to necessitate complete replacement. A hole approximately 5 ft. by 6 ft. was blown out on the second floor level, and two wide diverging cracks were made from the top of the expansion chamber on the roof to the top of the stack.

## Rotten Egg Odor Prevalent

**I**NVESTIGATION revealed that the explosion chamber of this stack contained an accumulation of dust and chaff encrusted to the sides of the chamber and on top of the umbrella. The interior of this accumulation was discolored, wet, soggy, black and warm, with a rotten egg odor indicative of the presence of hydrogen sulphide due to decomposition.

It is our opinion that the explosion was caused by the accumulation of hydrogen sulphide gas generated by the decomposition of the dust and chaff in the expansion chamber during the short shut down period. This gas, ignited by spontaneous combustion, exploded and in turn ignited the feed and dust present in the drier. [Incidentally, blowing one's breath on this gas is enough to ignite it.]

This is the first occurrence of its kind, to the best of everyone's knowledge, and it is suggested, to prevent a recurrence, that our cleaning program be accelerated or expanded to prevent the accumulations of dust or material in stacks or expansion chamber.

Our thought in submitting this report is that it may or may not be the answer to the cause of a lot of mysterious fires or explosions in elevators, drying equipment, etc., but it may give us something to look for and to guard against. We are happy to report that no one was even injured.

## EXPLOSION KILLS BRAVE WATCHMAN

Fire in an adjoining corn drying unit, starting as little more than a small blaze in the Gwinn Milling Co.'s Columbus (O.) properties the evening of Nov. 4th, caused destructive losses in the firm's two brick mill buildings of 1,500 bbls daily capacity. Quickly discovered by the night watchman, who turned in the alarm immediately, the blaze was held in check by his brave stamping until the fire department arrived—then all was lost.

Suddenly a dust explosion, presumably ignited by a spark, enveloped the properties and snuffed out the watchman's life in a flash. The headhouse and adjoining tanks of 950,000 bu and the company's feed plant suffered practically no damage. Built in 1909, the loss is placed near \$500,000.

## SUCTION AND VENTING CODE COMMITTEE EXPANDED

After a great deal of study including innumerable conferences and investigations, a subcommittee of NFPA's Dust Explosion Hazards Committee, known as the Suction and Venting Systems for Grain Elevators Committee, released a comprehensive and approved report permitting the application of suction at many transfer points previously prohibited by Weighmasters of our grain markets.

At the time this report was released there had not been an overabundance of dust explosions, and consequently we have felt that the report was not as closely read nor appreciated by the industry as it might have been. Even today many write or tell us they would like to make changes in their dust collection systems "if the Weighmasters would only allow it," to reduce the dust suspended in the air. Perhaps we shall find it expedient to republish this report for the benefit of those who overlooked it before—



# SCIENTISTS GIVE ON-THE-SPOT TESTIMONY AND EXPLANATION OF CORN PRODUCTS RE- FINING COMPANY'S RECENT EXPLOSION

and should the demand seemingly warrant we shall do so.

Chairman of this subcommittee is Kent H. Parker, Western Actuarial Bureau, with Eugene Arms, Mill Mutual Fire Prevention Bureau, and G. Frank Butt, John S. Metcalf Co., all of Chicago, and J. A. Mull, Van Dusen-Harrington Co., Minneapolis, as committeemen. Advisory members thereof include Arthur B. Osgood of The Day Company, Minneapolis, and Joseph A. Schmitz, Chief Weighmaster, Chicago Board of Trade, representing the Terminal Grain Weighmasters' Ass'n. Added to this list hereafter are to be Charles E. Harbin, Underwriters' Grain Ass'n, and Dean M. Clark, Society of Grain Elevator Superintendents, both of Chicago.

Hylton R. Brown, Senior Engineer, Bureau of Mines, and Chairman of NFPA's Dust Explosion Hazards Committee, reports that "At the present time there are no additions or changes that require consideration by the sub-committee, but I believe that all interested organizations should have full representation on the sub-committee if any changes in the code are proposed."

Proteolytic active enzymes are quite common among anaerobic bacillus. These organisms are most active in the absence of oxygen, and in order to obtain their oxygen requirements they reduce the organic matter in which they live. Almost all common proteins contain cystine and methionine, the sulfur-bearing amino acids. Therefore, when these organisms work on protein materials one of the things reduced is the sulfur in the amino acid to hydrogen sulfide. Hydrogen sulfide is a gas combustible to water and sulfur dioxide.

Hydrogen sulfide, being considered heavier than air, will collect in low pockets and, therefore, will not be removed by the normal drafts surrounding idle equipment if there are any available pockets for collection.

In the dust chamber end of a gluten drier such a pocket exists. If there is present in the bottom of this pocket some wet gluten and the proper organisms, the gluten will putrefy releasing hydrogen sulfide, which will settle as a blanket over the putrefying material. A visible criterion for this type of putrefaction is the blackening of the material due to the formation of iron sulfide from any iron-bearing material such as well water and the organic material undergoing putrefaction.

## Bill McDillon's Explosion Theories Proven Correct

FOR a number of years a member of the Chicago SOGES Chapter has been advocating research work on the presence of "swamp gas" that he maintained was present in enough quantities to be noticeable a block or more away from every grain handling and processing plant that later suffered an explosion after one of his weekly visits representing the Great Lakes Supply Company. He also called to the attention of the Chapter on various

occasions that in a number of cases where fire was credited with destroying a wooden house, that this same smelly gas was noticed by himself.

This latter observation, in light of the present findings, would indicate that explosions have probably taken a larger toll than fires, as previously thought. So when Ray O'Leary addressed the Chicago SOGES Chapter and revealed the findings of the Corn Products Re-

fining Company in their recent explosion, we followed up and contacted W. J. "Bill" McDillon to find out his further thinking on this vital subject—giving him first the technical analysis made by C. P. R.'s scientists. Here's what he has to say:

### Absorbed Moisture Causes Decomposition

"ON several occasions since I first expressed my thoughts



# PROFIT by EXPERIENCE

**T**HE DAY organization has been solving dust control problems for 64 years. DAY facilities include engineering, fabrication and installation of entire systems—large or small—including all required sheet metal work. This experience and equipment are at your service.

## The DAY DUAL-CLONE

This patented Dust Collector is the key to the uniformly successful operation of DAY DUST CONTROL Systems. Its advantages include low resistance, high separating efficiency, compact space-saving design, easy installation.

Now available in BOLTED FLANGE construction, prefabricated and riveted at the factory, ready to assemble and bolt together at the flanges. Packs compactly for shipment; easier to handle when installing.

### Call on DAY for All Sheet Metal Work

—standard or special—including spouting, piping, fittings, track shed dust suppressors, pneumatic grain car loaders, elevator leg casings, steel hoppers, miscellaneous steel bins and tanks.

*Important information for you in our booklet  
"DAY DUST CONTROL". Write for a copy.*

## THE DAY COMPANY

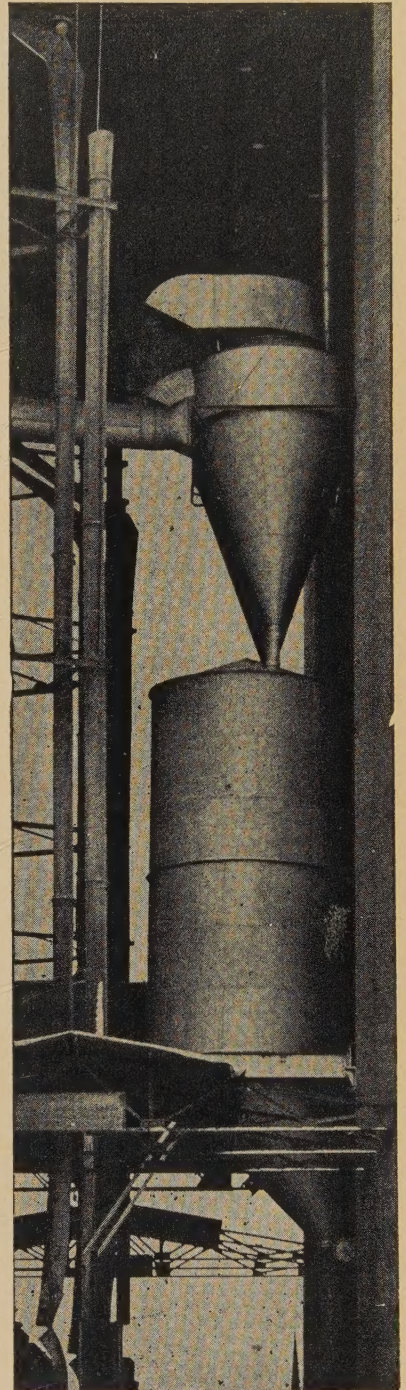
THREE PLANTS TO SERVE YOU:

HOME OFFICE AND PLANT—

814 Third Ave. N. E., Minneapolis 13, Minn.

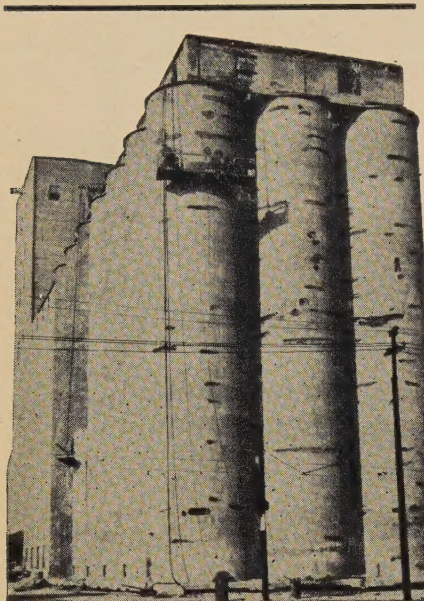
1820 Harrison St., Kansas City 8, Mo.

P. O. Box 70, Ft. William, Ont., Canada



One of many types of DAY installations at a grain elevator. The dust is discharged directly from the dust tank into box car below.

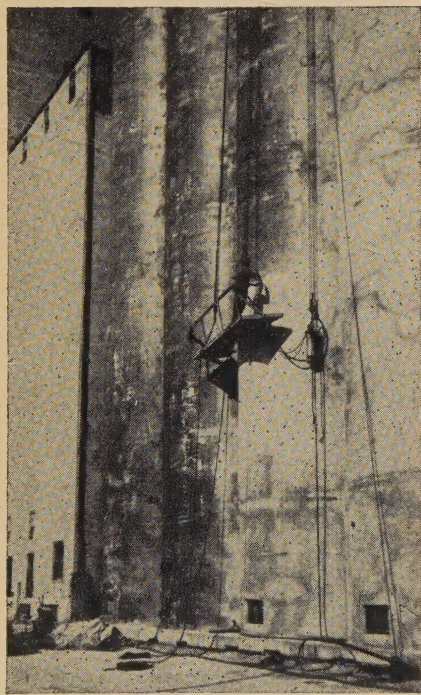




## PLAN NOW

to give your plant a new lease  
on future operation before it's

## TOO LATE



**I**NSIST upon having your weatherproof work done painstakingly and expertly, as did the J. J. Badenoeh Co., Chicago, whose plant is pictured above in the process of being scientifically preserved by the

**JOHN D. BOLTON CO.**

Specialists to the Grain Industry

20 N. Wacker Drive

Chicago 6, Ill.

on the presence of hydrogen gas being responsible in some manner for producing grain dust explosions within the confines of the plant, I have thought of some past experiences in other fields where explosions were not uncommon, nor disastrous.

"An explosion in a battery manufacturing and repair shop where manufactured illuminating gas and oxygen was used for burning lead, didn't used to be uncommon. There was a certain percentage of hydrogen in manufactured gas, commonly known as illuminating gas, and certain mixtures of hydrogen and oxygen were always known to be explosive.

"In the case of one explosion, however, the damage was amazing. The gas meter and all the pipes leading from the lead burning equipment to the meter were blown to bits, and a large hole put in the wall as though it were made of tissue paper. A fire developed that was put out before much damage occurred.

"Such incidents were not uncommon in the past. Today, however, control methods consist of a water seal (or trap) between the burning equipment and the meter that stops the "flash-backs" and keeps explosive mixtures, if developed, under control.

"As to how the hydrogen can collect within a grain handling or processing plant that appears to be dry and dusty, I have only a theory to offer. That is that moisture collected and absorbed by the grain dust causes fermentation or decomposition of a vegetable residue from which possibly hydrogen sulphide might result.

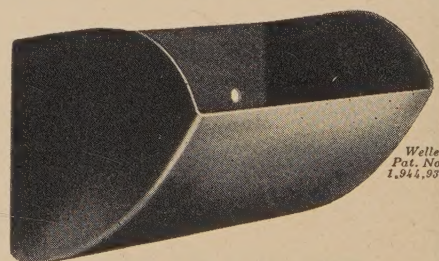
### Grease and Dust Explosive

**"F**ROM this an explosive mixture of hydrogen and oxygen might be found to be the underlying cause for the blow-ups the industry has suffered, inasmuch as oxygen is present at all times in our atmosphere. Then there is also the possibility of a certain amount of greasy products present in this grain dust, maybe from leaking bearings in the plant, maybe from atmospheric absorption somewhere between the grain fields and the plants. And, of course, a perfect combination of oxygen and grease

would, under certain conditions, result in a spontaneous explosion. However, I am still of the opinion, based upon years of observing acetylene torches, that the answer is hydrogen.

"Webster says that acetylene is: 'A colorless gaseous hydrocarbon,  $HC:CH$ , formed by the direct union of carbon and hydrogen in the electric arc, by the incomplete combustion of other hydrocarbons, by the action of water on certain carbides, etc. Acetylene has an ethereal odor, which is usually unpleasant, owing to the presence of impurities. With sufficient air it burns with a brilliant white, diffusive light, yielding 35-45 candle hours per cubic foot—which is nearly 15 times the light of an ordinary illuminating gas in an ordinary burner. It is less poisonous than coal gas, and is not liable to explosion if kept at a low pressure. Acetylene polymerizes readily . . .'

"Frankly, I have not given this subject much thought during the war, being too busy trying to keep the elevators and grain processing plants generally supplied with rope, bolts, bearings, cable, and the other 20,000 items needed to carry on the job of winning a couple of wars, but I feel confident that if the investigators will look into the factors causing an explosion in an acetylene torch, including the identical smell, I have confidence that much in common will be uncovered."



## IT'S THE Curve THAT Counts

*Counts*

in greater capacity than can be obtained from old style buckets.

*Counts*

in increased efficiency and economy . . . in reduction of time required for serving customers.

Send for Form 35. Learn how much greater capacity you can get from the elevator bucket with the Logarithmic Curve . . . the

**CALUMET** Super Capacity Elevator **CUP**

**B. I. WELLER CO.**

327 S. La Salle St.

Chicago 4, Ill.



# "The Way I Look at Our Elevator Hazards"

By C. W. LUND, Weighman  
Globe Elevator, Duluth

**M**ANY persons are injured because of ignorance, indifference or carelessness and continuous education is therefore absolutely necessary to secure their whole-hearted co-operation in reducing accidents. The creation of safety committees in most plants and the establishment of a regular program has brought splendid results.

Lack of safety education has resulted in many hardships being inflicted on humanity. When a new man is taken into a plant to work, the management should assume the moral obligation of seeing that working conditions are made as safe as possible and that he is not only told of the hazards but kept constantly reminded of them.

Some of the prime factors involved in proper working conditions are such things as safe machinery, mechanical guards, and a good clean plant with proper lighting. In order to have these safety measures you must have the co-operation of the management.

## Employees Caution a "Must"

**I**T IS fairly simple to provide proper guards, but it is not practicable to so guard all machinery that it will be impossible for an injury to take place either through carelessness on the part of the workmen or at such times as the mind wanders for a few seconds on account of the monotony of the job. In addition to these there are numerous ways through which injuries may occur that are not preventable except by exercise of caution on the part of the individual.

We who make our livelihood in the grain elevators are confronted with many hazardous jobs. There is one hazard, however, that is in my mind the greatest. This is the hazard to workmen where cars are shunted and moved around either by cable or by engine. Where cars are moved with a cable, as in most plants, there is a double hazard—that of the cable and

also the cars themselves. The accidents resulting from this hazard are usually severe and consequently tend to keep the rate for compensation insurance at an unnecessary high point.

## Car-Shed Authority Suggested

**O**NE, if not the main reason for the prevalence of such accidents, is the lack of some authoritative, well-posted workman having the particular duty of not only seeing that everything is clear before a car movement, but also having the additional duty of continuously warning and educating new hands relative to the danger. The Superintendent should therefore understand his responsibility and see that the man running this particular job knows what he is doing and should be able to direct others to do what they should do.

**POWER SHOVELS:** In the unloading shed you have the power shovels guarded to some extent, but you have the cables running through sheaves into the car in a crossed manner. When too much slack is drawn there is a chance of the cable forming loops on the grating. Men step into these loops when the rig is starting up and are dragged into the sheave and lose a leg. Likewise, men grab hold of the cables too close to the sheave (to draw slack to start the rig) and get caught, resulting in severe injuries to the hand. Good supervision, especially of the new men, cannot be stressed too much.

Never permit grain doors or any loose boards to lay around on the shovel floor, or any other refuse on which some fellow worker might stumble and fall and cause painful injury.

## Plants Unfortunately Not Designed For Expansion

**T**HE past twenty years has seen great advancement in the methods of handling grain, especially in the cleaning arrangement. Consequently

it has been necessary in many of the older houses to install new and more cleaners than originally intended in designing the plant. This has created in these plants a hazard which you who are fortunate enough to work in more recently erected and modern plants, do not have to meet.

When new cleaners are installed they are sometimes crowded up against posts and legs on account of inadequate space. It is almost impossible, in some cases of the man operating these cleaners, to move around in a free and easy manner. He must, therefore, of necessity, exercise exceptional care when operating such machines.

He should never neglect his clothes, lest a torn overall pocket or other strip of clothing become entangled in the belts or moving parts of the machine. A serious accident happened at one of our Superior (Wis.) elevators a few years ago when a cleaner man was caught in a cleaner belt on account of this neglect. He left the scale office and a few minutes later his fellow workers found him with his head crushed.

## Safety Education Vital

**M**UCH of this hazard can and is eliminated through the campaign of safety education now conducted by our plants where all in authoritative positions attend safety schools and in turn impart the lessons learned to their fellow workmen.

Workmen are often sent upstairs to clean out the probe bins. Being a weighman I feel I should stress this point. We have a rule that a man who has been sent up to do this work must report the same to the weighman or the man in charge on the scale floor.

When I have known of men being up to do this work when the plant is in operation I have, before dropping any grain, gone down to check the spouter to see that no possible mistake could be made and the grain dropped on a man in the bin.



Don't permit any man to descend into a bin without a safety line, and have him keep it on if he's down to sweep the bottom or to remove some obstruction. Had the man at one elevator done this, we would not have had the fatal accident a few years ago; and if any of you could have held the hand of this man, as I did, and saw his life slowly ebbing away and be absolutely helpless to do anything to save him, you would do your damndest to see that it would never occur again if humanly possible.

#### Recommends Penalties for Violation

**W**E all know that immediately following such an accident, and for

some time thereafter, every care is taken to prevent a repetition. However, as time goes on the shock wears off and workmen again become negligent and exercise less care. This is where meetings such as ours have brought results. Through talks and discussions certain rules have been established, for violation of which drastic penalties might be taken.

When I first started to work at an elevator it was nothing unusual to be sent down into a dusty screening bin without a safety line and with an open lantern in hand. Today the employee who insisted on going down with a lantern would be immediately discharged. An open lantern no longer

is even permitted in any part of the elevator; even electric lights are dust-shielded and extentions are equipped with wire guards to prevent possible breakage which might cause ignition of dust.

#### Management Alert To Suggestions

**I**N this connection I would state that not only in our plant but in elevators in general the management is always ready to lend a willing hand to install safety measures and guards as the government and state inspectors require, but I have found that they invariably appreciate and act on suggestions offered by employees. I therefore feel that one constructive innovation I would like to offer would receive due consideration from all elevator executives: A "hazards" box in the foreman's office where each employee may place a card containing a description of some hazard that has come to his attention, along with his own suggestion of a remedy of guard against same.

There is one hazard prevalent in all elevators which had not yielded to mechanical safeguards despite years of intensive study devoted to it by all kinds of experts. Our port has been fortunate in never having had a serious calamity occur. However I know that no elevator man ever reads of a dust explosion without a shudder of horror in thinking that his plant may be next to be visited by this hazard. We whose duties confine us to the upper floors realize the slight chances of escaping uninjured should such a dust explosion take place.

#### Idol of Perfection Shattered

**M**ANY preventatives have been installed such as dust collecting systems, ventilation in bins, etc., but the elevator which has been looked upon as a model in this respect experienced a disastrous dust explosion. I refer to the Western Maryland explosion at Baltimore in the latter part of 1930 which resulted in the loss of six lives and injuries to fourteen and a property loss of several millions. The Superintendent of this elevator had long been one of the outstanding exponents of safety in elevator operation, but the explosion occurred and workmen died.

It has been my purpose to stress this particular accident occurring as it did in this model plant to attempt to show that mere mechanical safeguards alone are not enough. For a plant to be properly safeguarded it is absolutely necessary that there be on the part of all employees a clear understanding of the hazards of their occupations.

### WILLIAMSON FEED MILLS

QUALITY FEED MANUFACTURERS  
OFFICE AND MILL  
CORNER LOGAN AND WILCOX STS  
JACKSONVILLE 4 FLORIDA

July 19, 1945

Eriez Manufacturing Co.  
Erie, Pennsylvania

ATTENTION: Mr. R. F. Merwin

Dear Mr. Merwin:

It is indeed a pleasure for us to write you regarding the highly satisfactory performance of your ERIEZ magnet.

We ordered this magnet by air mail express and Mr. Zumstein made a special trip enabling us to have it working within twenty-four hours after the order was placed. This magnet was installed on a molasses mixing unit at an almost perpendicular angle from the discharging spout.

Since its installation three months ago, we have taken out over seven, sixteen quart baskets full of tramp iron and a large portion of this is fine and small pieces of metal that do the greatest damage to live-stock. Prior to installing your magnet we were having a great many complaints from our customers regarding tramp iron and metal, but since installing your magnet we have had not one single complaint.

In addition to the remarkable performance of your magnet we would like to add that the cost of installing is so simple and easy that we did not have to spend one penny for hooking it up. Likewise, there is no operating cost.

Very truly yours,

WILLIAMSON FEED MILLS

*Williamson*

BHW:slw

**ERIEZ MANUFACTURING COMPANY**

119 East 12th Street • Erie, Pennsylvania



Our safety schools and literature have done much towards this end; however, it remains the duty of each individual employee, from the Superintendent to the youngest sweeper, to instruct every fellow worker of any kind and all hazard which may come to his attention. This spirit of co-operation would accomplish much towards safety education, and lectures and literature would supplement.

#### Unused Knowledge Kills Fellow Worker

**I**T IS not sufficient to have a knowledge of the various hazards. Knowledge not put to proper use is worse than useless for it robs the victim of even that time worn alibi, "I did not know."

In conclusion, I feel that one of the strongest safeguards against accidents consists of contented workmen. Our company has taken a long step in this direction in their construction of a service house at their plants, the P V and Globe elevators. These service houses furnish the workmen with steel lockers, toilets, shower baths, tables and benches for lunches and a comfortable rest room during meal hours.

Each employee feels that our company has taken a personal interest in his welfare, and reciprocates by not only giving his best efforts on his particular job, but also feels it his duty to attempt to safeguard his employer's property as much as he can. Through improvements of this type comes that necessary co-operation so essential to the success and improvement of every industry.

#### DOWN BUT NOT OUT

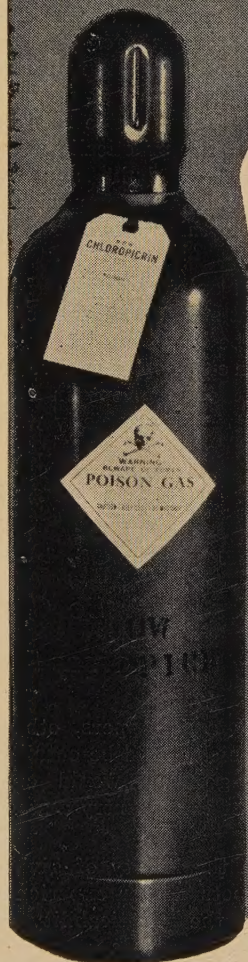
"A match may be down—but not out", reads the vest-pocket "bill-board"—size match cover cleverly designed by the Safety Department of Seagram-Calvert. Inside the folder, vividly printed in large red type, are listed the company's six cardinal safety rules. The cover depicts a "stick" man throwing a glowing match behind him as he walks along puffing on his freshly lighted cigaret. Don Harmer of Louisville reports considerable success with, and wide acceptance of these matches—as well as the safety rules enumerated.

#### Says "Count Us In"

The employes of the Anheuser-Busch Grain Elevator here says: "Count us in on the SOGES 1946 Safety Contest."—C. Wallace Clark, Manager, Springfield, Mo.

FOR BEST RESULTS USE

# DOW CHLOROPICRIN



FOR GRAIN  
FUMIGATION  
AND  
RODENT CONTROL

Complete information  
available on request.

THE DOW CHEMICAL COMPANY  
MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington  
Cleveland • Detroit • Chicago • St. Louis • Houston  
San Francisco • Los Angeles • Seattle

# DOW

CHEMICALS INDISPENSABLE  
TO INDUSTRY AND VICTORY



# Rock Island's Cement Gondola Cars Are Ideal For Handling Bulk Commodities

I note Mr. Sidney Cole's comment on the use of gondola cars for the transporting of grain, which appeared in the September issue of "Grain Magazine," and as we have had some experience in unloading this type of car I felt you would be interested in learning of same.

We have found that the cement type of gondola car, which are built with permanent, practically watertight roofs are ideal for grain carrying purposes.

In those elevators equipped with pit openings which extend three or four feet on both sides of the track, the only labor necessary in unloading this type of car are sweepers. In our own elevator our pit openings, unfortunately, extend from the inside of one of the tracks over beyond the other for a distance of about four feet. Therefore, all of the grain which drops out of the hoppers on the side of the rail which has no pit opening has to be picked up after the car is unloaded and thrown into the pit with hand shovels. This, of course, slows down the operation, which would not happen if our pits had not been specifically built for use with the Clark shovel machine. As you undoubtedly know, the use of the Clark shovel machine is generally confined to one side of the car, making pit openings on both sides of the car unnecessary.

## Hoppers Would Have to Be Grain-Tight

Frankly, we do not think that any gondola car which does not afford full protection from the elements should be used for the transportation of grain under normal conditions. It is our belief that unless such cars are properly roofed that the damage to grain transported in them would render negligible any benefits derived therefrom.

Another angle encountered with the use of gondola cars is the fact that the hopper bottoms are not always grain-tight—as we have observed too many gondola cars being placed at this elevator with grain trickling from the hopper bottoms. As you know,

this too is an undesirable condition, because certainly our industry would not care to use a type of equipment if the possibility of large grain losses from the unsuitability of the equipment itself was an ever-present factor.

We have been receiving at this elevator a type of cement gondola car built by the Rock Island railroad, which is about the nicest equipment for the purpose that we have seen to date. These cars are practically new; the hoppers are well-built, and we have yet to notice any appreciable grain losses from this particular type of car.

As a personal opinion, I would say that in the event sufficient hopper bottom cars could be constructed to move the annual grain crop, these cars would thereafter have to be kept in A-1 condition at all times, especially with

## Testifies CHARLES J. WINTERS, General Superintendent, Public Grain Elevator, Port of New Orleans, "But Roofs and Hoppers Must Be Cared For to Prevent Staggering Losses From Leakage."

regard to roofs and hoppers, otherwise the loss which would be entailed in the use of gondolas would cost grain shippers of this country a staggering sum.

I have taken the liberty of giving you the high-spots of our experience and opinion on the practicability of handling grain in gondola cars. In the event you would be interested in further details, I shall be happy to supply them.

## GONDOLAS DOUBLE CAPACITY

With reference to Mr. Sidney Cole's article in GRAIN for September, relating to the use of gondola cars in the movement of bulk grains, I should like to comment, as per your suggestion.

During the period of the last five months this elevator has received for export approximately 3,000 hopper

gondolas of wheat and I can confidently state that this method of moving grain makes it possible for us to handle twice the tonnage at one half the expense, as compared with box cars.

Aside from the tremendous advantage to us, and viewing the matter from the side of the transportation companies, it should be self evident that the saving to them in grain door construction alone would be enormous in view of the fact that where tops are a part of standard equipment no grain doors are required. Further, loss on account of leakage in gondolas is negligible, it being my personal observation that losses of this nature are reduced to about one tenth of one percent.

I am very definitely in favor of the use of hopper gondolas for bulk grain handling, and it is my studied opinion, based on long years of experience, that it is the ideal equipment for this purpose.—Arthur C. Benson, Elevator Superintendent, Houston Milling Co., Texas City, Texas.

## To Which Mr. Cole Replies:

"It is our opinion up here that if we can obtain comments such as yours from enough of the elevator superintendents from around the country, we will be in a position to get action from the various roads."

## EXPERIMENTAL WORK DELAYED



I regret that our experiments with the shovel machine have not progressed much since my last report. The volume of business we have been handling has made it impossible for us to devote much

time to this work. And unless the tonnage we are handling subsides in the near future, it may be some months before we have anything definite to report. Rest assured that as soon as we do get something definite you will be the first to know about it.—Charles J. Winters, Supt., Public Grain Elevator, New Orleans.



**now...on a wider  
range of motors**

**don't lubricate for 5 years or more**

**up to 15 hp**

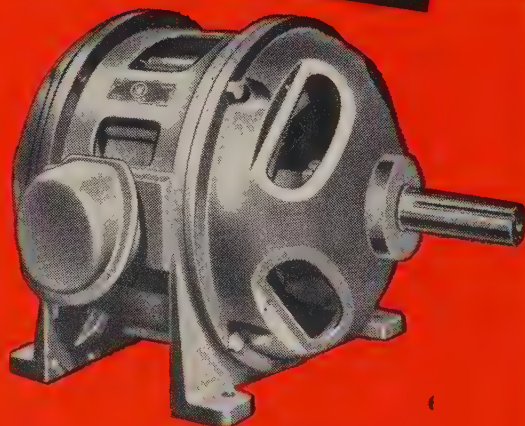
Induction motors—always an easy responsibility for maintenance crews—are now simpler than ever. Now, in sizes up to 15 hp, Westinghouse squirrel-cage motors need no lubrication for 5 years at least and maintenance is practically negligible.

All Westinghouse squirrel-cage ball bearing motors (CSP and CS) up to 15 hp, frames 203 to 326, are prelubricated at the factory and sealed so they need not even be inspected for lubrication until after 5 years of 24-hour-a-day operation. In operations using many motors, this saves a large amount of time for maintenance crews and brings other advantages, as well:

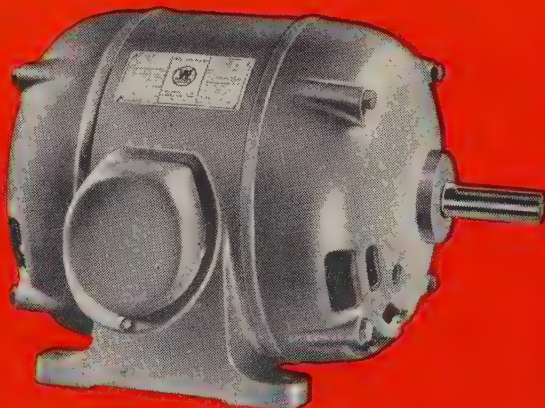
- No overgreasing
- No "skipped" bearings
- No grease contamination
- No grease seepage
- No unreplaced pipe plugs

With all these advantages, you can install motors and work them hard for 5 years or more with no attention. For complete information, write for Bulletin B-3554 and Descriptive Bulletins 3100-CSP and 3100-1 to Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

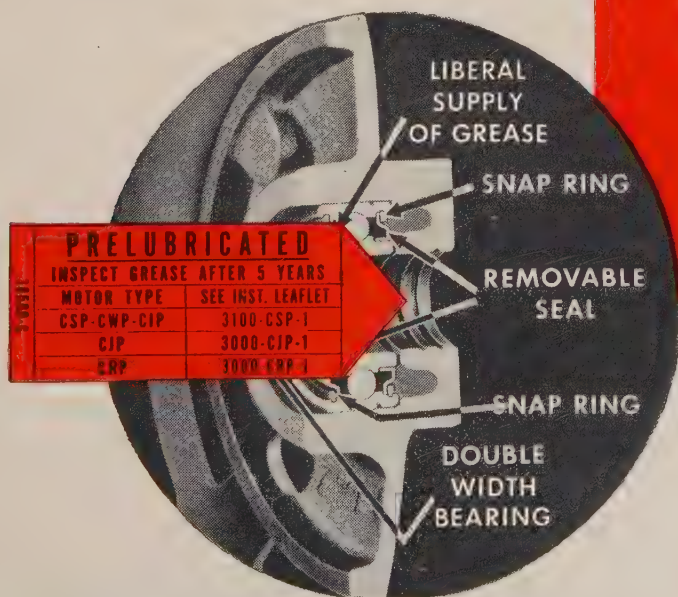
J-21329



Type CS motor has prelubricated sealed ball bearings, frame sizes 254 to 325.



Type CSP motor has prelubricated sealed ball bearings, frame sizes 203 to 225.



PRELUBRICATED	
INSPECT GREASE AFTER 5 YEARS	
MOTOR TYPE	SEE INST. LEAFLET
CSP-CWP-CIP	3100-CSP-1
CIP	3000-CIP-1
CRP	3000-CRP-1

Another Westinghouse motor "First"—the lubrication label that says, "Don't lubricate for 5 years or more."

**Westinghouse**  
PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE



**SQUIRREL-CAGE MOTORS**



## STUDY COURSE ON WAY

The Study Course for Foremen and Safety Committees has again been revised and is now ready to be published. It will be presented in sections, over a period of four or five months, in "GRAIN" so as to be available to the entire industry.



However SOGES will also have separate sets of reprints for distribution at your meetings at about 50c each.

SOGES Safety Contest Director Turning believes that anyone using this Study Course will desire a set of this text for each assistant superintendent, foreman, and safety committee member—with a small reserve for added members. Hence a large organization might readily use 100 sets of the reprints, and an average sized group would need about 25, he calculates.

Would you kindly figure out your requirements and send us your order at once so we can estimate the total size of our printing run, Mr Turning asks, who should be addressed at 107 Federal Office Building, Minneapolis, Minn. "Please give this your immediate attention, as your present co-operation may determine whether or not we can go through with this project," he says. "And if you need more copies of the SOGES Safety Manual just let us know, as we still have a small supply." Reprints will be ready around July 1st.

## WORTHY GOAL FOR 1946

I would like to see the year of 1946 devoted to eliminating the costly mishaps to life and property in grain handling and processing plants. I know that American engineering ingenuity can do the job if the right heads can get together and enough co-operation and time given them to do a good job.

This problem has been in my head for a long time and I have some ideas along this line if I could get others interested. "GRAIN" magazine is one source where we can pool our experience and knowledge and where we look forward to new methods. It is the voice of the grain world.—H. W. Puetz, Engineer, Lumbermen's Mutual Casualty Co., Milwaukee.

*The greatest pleasure I know is to do a good action by stealth and to have it found out by accident.—Lamb.*

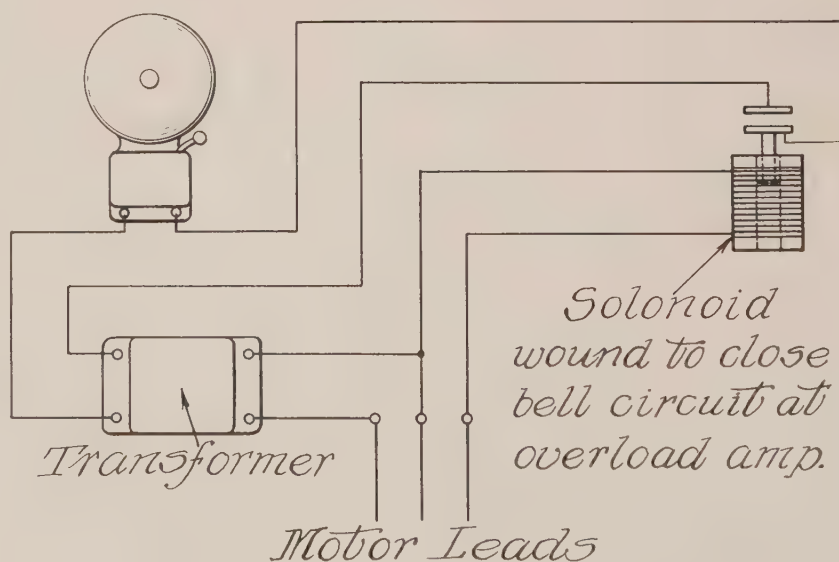
# Avoids Costly Conveyor Shut-Downs Caused By Clogging, Electrically

M. G. KELLETT, Superintendent of the Great Western Malt-ing Company, Vancouver, Wash., Solves Problem Most Satisfactorily.

I was particularly interested in an article recently appearing in GRAIN reporting one of the SOGES "round-table" discussions presided over by Frank E. "Slim" Carlson. In response, perhaps a suggestion from me on clogged screw conveyors might be in order.

We use a very complicated conveyor system, which in years gone by caused us the loss of many hours of service by just such clogging as was referred to by Mr. Carlson. They occurred often, and each time they represented from 20 to 30 minutes shut down.

As a result I developed a practically fool-proof method of overcoming this condition in the following manner: I worked out an electric alarm system which, based upon the amperage of each conveyor motor, would ring a loud alarm at the point of control covering the load in that conveyor.



It is therefore easy to cut the load so quickly that the conveyor is relieved before the motor cuts out. At the same time it allows the operator to keep the conveyors running to capacity, because the alarm is set just below the danger line, viz., the overload relays in the starting switch are 26 amps, and the bell circuit closes at about 22 amps.

This system has operated successfully for the past 12 years. It is also applicable to journal alarm systems, and a myriad of other installations around any grain or processing plant.





**SPECIALIZING  
IN  
GRAIN MILL  
*and*  
PROCESSING  
PLANT  
LAYOUTS**

## PROPER *Plant Layout* PROVIDES

- ★ MAXIMUM PRODUCTION
- ★ GREATEST ECONOMY

The two most important considerations you have today are . . . production . . . and . . . economy.

Until it is possible to get new equipment, which may be many months yet, old machines must be made to produce their maximum output. While they stand idle . . . or while other machines tie them up . . . if for only short periods of time . . . they are cutting down your production and affecting the economy of your operations.

It is possible for the trained eye of a BETTER METHODS industrial engineer to spot "bottle-necks" and break them . . . sometimes by only a simple arrangement of the flow in your mill or processing plant. Sometimes a complete rearrangement is advisable.

It will pay you to find out . . . now . . . what improvements in production and economy can be made for you . . . so that if you need additional equipment your order will be placed in advance.

**WRITE OR WIRE TODAY**

**BETTER METHODS INDUSTRIAL ENGINEERING CO.**  
53 W. JACKSON BLVD., CHICAGO 4, ILL.



# 4 FOR MORE PROTECTION

*Against Water and Waste*



One of the scores of elevators that FOUR coats of In-Fil-Tro-Flex have made water-tight for years to come. Give YOUR grain tanks this positive, time tested protection.

**N**OT one, not two, not three, but FOUR coats of weather-proofing material are applied in resurfacing an elevator, when the B. J. Many Company does the job.

Yes, *four* complete coats of chemically compounded, gun-applied In-Fil-Tro-Flex. Coat upon coat of enduring protection. All pores, all cracks securely sealed. Every inch of surface made absolutely water-tight . . . made to stay that way because

## *In-Fil-Tro-Flex*

weather-proofing stays put. Adheres with bull-dog tenacity. Extremely elastic . . . g-i-v-e-s with movement . . . keeps cracks bridged.

A B. J. Many Company job costs more, it's worth more; it lasts longer . . . and that's what counts. Cheap materials and faulty workmanship represent false economy.

Include this better weatherproofing and restoration in your post war planning. Write

**B. J. MANY CO.**  
30 N. LA SALLE ST. CHICAGO, ILL.

Grand Central Terminal, New York, N. Y. Baltimore Life Bldg., Baltimore, Maryland  
213 State Street, Detroit, Michigan  
AUTHORIZED AGENTS: Pioneer Sand & Gravel Co., Inc., 901 Fairview Ave. North, Seattle 9, Washington  
Northland Machinery Supply Co., Ltd., Winnipeg, Manitoba  
R. H. Crawford, Oakville (Ontario), Canada  
Northland Machinery Supply Co., Ltd., 203 Hardisty Street, Ft. William, Ont.

## WE ARE MOST IGNORANT ON GRAIN STORAGE

Says F. Le Gros Clarke in Addressing The Association of Scientific Workers in London, on "Health, Food and Agriculture."

Science has ultimately no national frontiers; and he who considers food scientifically must consider the world's food requirements and how they shall be met. In my opinion one of the first measures we must take after the war is to revert to first dietetic principles and get back to protein.

We must consider the type of research now especially required for the period of reconstruction; and I would suggest that we need to begin an intensive study of the technology and economics of food distribution and transport, and of the type of administrative machinery required to relate production more and more closely to human needs.

It is upon the stage between production and consumption that the most intensive study needs to be concentrated, i.e., transport, storage, and distribution. It is here that we are most ignorant and it is here that we are likely to realize the largest reductions in the final price.

I would set my finger on certain problems that require to be tackled early—the disposal of surpluses whether of home-grown or bulk overseas crops, the guarantee of quality and safeguarding of the vitamin and mineral potency of processed foods, and the methods of providing supplementary foods to special groups of the population both in this and in other countries.—From *The Miller*, London.

**FIRMS** that spend money to build good will are less likely to do anything that might nullify the effect of their advertising than firms making no such investment. It will pay readers to trade with GRAIN advertisers.

### Wants It Continued

Mr. Milton H. Faulring, this plant's former manager, has been transferred to our Ganado, Texas, plant. Mr. Faulring has expressed his interest in your magazine GRAIN, and we are sure he would like to remain on your mailing list.—D. F. Holbert, Archer-Daniels-Midland Co., Toledo.



# Wheat Characteristics To Imitate Jitter-Bug Pattern In Future

Wheat Varieties Will Increase; Milling and Baking Characteristics Will Vary Widely, Hence Greater Study Is Mandatory in the Period Ahead. Undesirable Wheats Can Become Major Problem Unless Checked, Avoidable Only Through Working With Crop Improvement Bodies, Says Paul H. Christensen, Van Dusen-Harrington Co., Minneapolis

**T**WENTY years ago wheat varieties were few, and grain men generally directed their attention only to such binning distinctions as test weight, dockage, damage and wheat types. Those were the days when the winter wheat empire of the Southwest raised only Turkey, and the hard red spring wheat domain—the Northwest and Canada—raised Bluestem and Marquis.

In those days, which some with a more pessimistic nature describe as the “good old days,” the many problems of buying, merchandising, storing and processing were not complicated with numerous varieties. It was expected, of course, to encounter wheat quality variations caused by weather and soil and harvest conditions, but the large majority of the crop in any particular area was Bluestem or Marquis or Turkey. Other varieties, yes, but their acreage was relatively small.

Milling, or perhaps we should say flour requirements, were not so exacting in those days either. Thus mill buyers were not so critical and it was almost a case of “wheat was wheat” and “flour was flour.”

## Flour and Wheat Requirements Tightened

**N**EXT there came a period of more exacting consumer demand for flour. Fortunately, however, this coincided with an educational program among wheat raisers conducted by state colleges and crop improvement associations which served to further standardize and restrict the number

of varieties. As illustration, this was the period of Kansas Kanred, Montana Marquis, North Dakota Ceres and Canadian Marquis and Reward.

Then the variety lid blew off; Canada emerged with Renown, Apex, Regent and Thatcher. The spring wheat area in the U. S. produced Thatcher, Rival, Pilot, Nordhaugen and several others. In the great Southwest it was Improved Blackhull, Chiefkan and Tenmarq.

These are only a few of the many released and immediately grown on thousands of acres all within the space of four or five years. The different varieties paid no attention to state or international boundary lines—they spread like tumble weeds.

## Why So Many Varieties?

**T**HE reasons for the variety deluge were a combination of several unfortunate circumstances. Devastating drought, heavy grasshopper damage and two years of terrific black stem rust infection combined with general economic distress to accelerate the production and release of new varieties.

The plant breeders had many new strains of rust resistant wheats in their nurseries and grain producers and their interested friends were eager to get anything new which gave even remote promise of being better. So the variety lid blew off and we now have many where before we had few.

Terminal elevator operators, all grainmen, millers and farmers are or should be vitally interested in this va-

riety picture because varieties spread more rapidly on larger acreages nowadays than formerly. Thus a lone patch of some undesirable wheat creation may initiate a genuine farming and milling problem within three or four years.

## Different Characteristics in Newer Strains

**S**ECONDLY, these new varieties, highly bred for some particular genetic or hereditary property, are complicated affairs. Perhaps they respond with greater reaction to certain climatic and soil conditions which affects both yielding and milling quality values. Many of these newer varieties have distinctly different milling and baking characteristics.

In the old days, Kanred was not greatly different from Turkey, from a milling standpoint, nor Reward from Marquis. But it is different now when Chiefkan, Tenmarq and Blackhull or Renown, Thatcher and Nordhaugen may be raised and shipped from the same country station.

It would be welcome news if we could be confident of the hopeful prediction that the number of varieties would diminish in the various wheat regions. Unfortunately we can not believe such will be the case. It is not logical. The tempo of wheat production and of wheat breeding has increased and will continue to accelerate as farmers pay greater attention to lowering production costs and as scientists delve further into their studies of disease and varietal reactions.



## Poor Wheats Can Be Eliminated

**T**HERE are only two ways by which the variety picture or rather the variety population can be stabilized. Either or both are entirely possible.

If sufficient educational work of a thorough and practical nature is conducted by state colleges and crop improvement associations the undesirable varieties CAN be curtailed and eliminated to a practical extent. That is where YOU can function; if you don't like the variety strains report to your crop improvement association.

The second possibility is that farmers will learn or form the habit of quickly changing from one variety to another. Ordinarily the farm population is very slow to shift over to a new variety even though it is well recommended. If they will form the habit of following their state experiment stations more closely and then changing quickly to the new variety then perhaps the variety condition need not become so disturbing.

## Characteristics to Vary Even More

**N**EW varieties, which all encounter regardless of location, can be identified usually by their kernel characteristics. "That requires an expert,"

you say. No, it merely requires a normal individual with normal eyesight, who has faith and the determination, to study.

Anyone with the will to study and learn can soon identify practically all wheat varieties. It is not easy nor is it learned quickly, but the skill can be acquired. In this connection and as a starter, those interested in the hard red spring and durum wheats should get the Spring Wheat Dictionary printed by the Northwest Crop Improvement Association.

Wheat varieties will be with us always. It is entirely possible that their number will increase and it is probable also that their milling and baking characteristics will tend to vary more rather than less. In either event, acquiring even a limited working skill in distinguishing one variety from another by its kernel characteristics is more than just desirable.

## MEET ON GRAIN GRADES

The Grain Committee of the Millers' National Federation met recently to canvas possible changes to be considered in the federal grain standards. "The most important of these proposals is the idea of segregating wheat varieties with inferior milling

and baking characteristics from the wheats with satisfactory performance in the mill and bakeshop," reports the association's "Hook-Up." The last revision of any consequence in the wheat grades took place in 1936.

## WHEAT CHARACTERISTICS COURSE

Two short-course sessions of the Wheat Kernel Analysis School at Kansas State College in Manhattan recently drew 94 grain buyers, millers; and federal and state inspectors from 10 states. Sponsored by the departments of Agronomy and Milling Industry, the courses were designed to familiarize the men with characteristics of kernels of different wheat varieties to enable buyers to purchase the kinds best suited for bread making purposes.

## TEMPORARY STORAGE COMING DOWN

Some of the temporary storage facilities erected at Fort William and Port Arthur—totaling over 52,000,000 bus. capacity—are being torn down. The units were built for emergency war-time protection of the huge supplies of grain on hand.



## NEW ENLARGED CATALOG READY

Write for improved Seedburo Catalog and Grain Graders Guide (unless you have it already). It shows hundreds of products for grain grading, seed testing, plant maintenance, etc.

626 Brooks Building  
Chicago 6, Illinois

# Steinlite

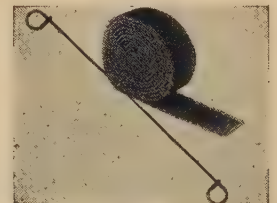
## Electronic Moisture Tester

Here's why the Steinlite is so accurate on grain, feed, cottonseed, chemicals, and scores of other products: (1) It is designed and built by pioneer radio engineers, (2) operates on radio frequency impedance principle, (3) made of finest materials available, (4) rigidly and repeatedly inspected, (5) calibrated against official oven methods.

Besides, it's fast . . . shows results in one minute. And it's easy to operate. More in use than all other electric moisture testers combined. Sold on ten-day free trial basis. No money down. \$275.00 F.O.B. Atchison, Kansas. Write for catalog number 146.



"PISTOL-GRIP" FIRE EXTINGUISHER



BATES WIRE TIES

Shoots about 30 feet straight and continuously. Turn handle a half turn either way, pump a few strokes and pull the trigger . . . not necessary to pump while shooting and pressure can be stored up for short periods. The liquid contains no water, alkali, or acid, and will not freeze. It is a non-conductor of electricity, and will not harm delicate silks, high polishes, etc. Price—1 Qt. \$9.30, 1½ Qt. \$11.30. Refill liquid \$8.95 Qt., \$3.15 Gal.

Make closing simple, quick and economical. Bates Loop End Wire Ties in any gauge wire from 12 to 21, 2½" to 48".

	18 Ga.	16 Ga.
6" . . . . .	\$0.75 M	\$1.30 M
7" . . . . .	\$0.85 M	\$1.00 M

Other prices and samples on request. 5,000 of one size to the roll. Minimum shipment 1,000. Rates Upset End Wire Ties in 16, 17, 18 and 19 gauge wire only, 3" to 10" lengths.

# SEEDBURO

EQUIPMENT COMPANY





# SOLVE BAG-OPENING KNIFE PROBLEM IN AUSTRALIA

From L. S. Harrison, Wheat Commissioner and Manager, Government Grain Elevators, Sydney, Australia

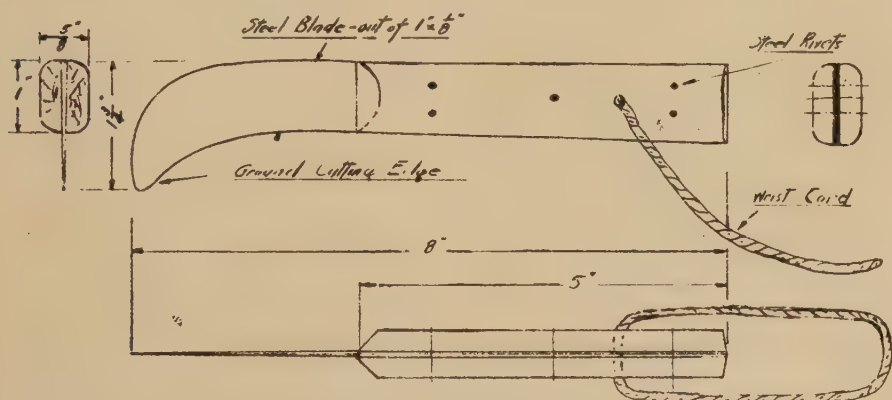
On page 25 of the June GRAIN there is a query in regard to bag-opening knives. I am passing on to you our views on the matter, which you may find of some interest.

The bag-opening knife illustrated herewith can be readily sharpened by a stone and, although it may reduce in width, its efficiency is not impaired until there is practically no blade left.

The curve of the blade at the end should be maintained throughout its whole period of usage and the shape of the knife will readily indicate that it is the safest possible shape to avoid accident.

A hole drilled through the handle for the insertion of a cord, to go over the user's hand and remain around his wrist, allows the knife to be released and it is in a safe position when the necessity occurs for the use of both hands for other purposes. In addition, the cord around the wrist prevents the possibility of the knife being dropped. The cord should be a fairly tight fit over the hand. The knife should be used towards the operator.

In reference to my visit to the U. S. in 1935, at which time I met a good number of SOGES members, I might say that I would not have omitted any portion of the trip whatever and, although I did see a great deal of America, my regret is that I was not there another six months and did not see all 48 states.



## BUY NO "ISOMERS" DDT

When you buy DDT, make sure you are buying a real DDT solution, not "isomers" or an unspecified amount in an unidentified solvent, the U. S. Public Health Service advises.

DDT comes in various forms, including one known as "isomers", which has the same carbon, hydrogen and chlorine atoms as real DDT, but arranged differently. It is far less efficient as far as bug-killing goes, and should not be sold as DDT.

Reasonable caution will protect users from poisoning, USPHS points out. "Don't breathe the spray or dust—use a gauze mask across the mouth and nose. Don't get DDT on food, and don't let the oil solution (if that is the inadvisable solution being used)

remain on the skin—for it can be absorbed.

## WARNING ON DDT

Many new insecticides are now coming on the market advertised as containing DDT, the well-publicized insect killer. These insecticides in many cases have an oil base with fire hazard similar to kerosene. The DDT does not add to the fire hazard, the National Fire Protection Ass'n points out, and caution should be exercised in the spraying of these insecticides

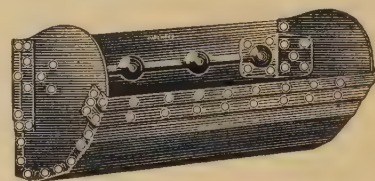
as in the case of any combustible liquid.

Obviously any product containing an oil base is entirely unsuitable for use directly on grain or grain products.

## OFFERS ALUMINUM BUCKET CO-OPERATION

Considering the apparent interest in aluminum or aluminum alloy elevator buckets, as evidenced by the number of articles that have appeared over the past several months in "GRAIN," the Screw Conveyor Corporation will furnish a complete installation of such buckets on one leg, at the cost of steel buckets of equal weight and gauge, provided one member of the Superintendents' committee will work with our company and the primary suppliers.

It has been held that aluminum buckets would not create sparks, nor would they generate or carry static charges. Nevertheless, considering the character of this metal I am very skeptical of many aspects of its use in buckets, but am willing to co-operate to the fullest with the industry.—Russell B. Maas, Vice President.



THE FACT STILL REMAINS  
that  
SUPERIOR ELEVATOR CUPS  
are  
MADE STRONGER  
will  
LAST LONGER  
have  
GREATER CAPACITY

and will operate more efficiently  
at less cost than other elevator  
cups.

"DP" - "OK" - "CC" - "V"

write to

K. I. WILLIS CORPORATION  
MOLINE, ILLINOIS,

for names of distributors  
and analysis form No. 20.



# LEGAL EAGLE CLARIFIES G. I. BILL OF RIGHTS

**R**ECENTLY, with the thought of getting hep to what the future holds in store for the dog-face who is point happy enough to become a civilian, we renounced all worldly things and retired to a cave under the nearest Bierstube armed with a copy of the "Servicemen's Readjustment Act of 1944, World War II," otherwise known as the "G.I. Bill of Rights," and came up with the following:

Everybody except German War Criminals are eligible, and exception

may be made even in those cases providing the applicant has seen at least one performance of "This is the Army."

## Educational Benefits

**T**HE Government will furnish 75¢ in cancelled United Cigar Store Coupons for the education of persons between the ages of 25 and 26. This includes tuition and supplies, consisting of a wooden shovel and a fireplace. At the end of the course the student changes his name to Abraham Lincoln

and becomes the First President of the United States.

Veterans are also eligible for select courses at any school they may choose, up to the Third Grade, providing they pay all tuition.

Veterans with two heads may attend only one school at a time due to transportation difficulties.

## Loans

**Y**OU can borrow up to two thousand dollars in Confederate money to start yourself in business. Loans will be made by your local bank, providing the Cashier hasn't left for South America with the bank's dough. It is required that the business enterprise be a sound one, such as Opium Den or Murder, Inc.

You may also use the money to purchase a home, but the Government requires that you live in it, so that's out.

**UNEMPLOYMENT BENEFITS:** (AH!) Why worry? If you miss out on this deal you can always go on relief like the Old Man.

**UNEMPLOYMENT READJUSTMENT:** The Government has selected trained personnel to fit the right man in the right position and will make every effort to see that you are employed. In other words, unless you are mighty careful you will find yourself with a job and a Slave to Big Business. The only remedy for this is to become Vice-President and go into obscurity.

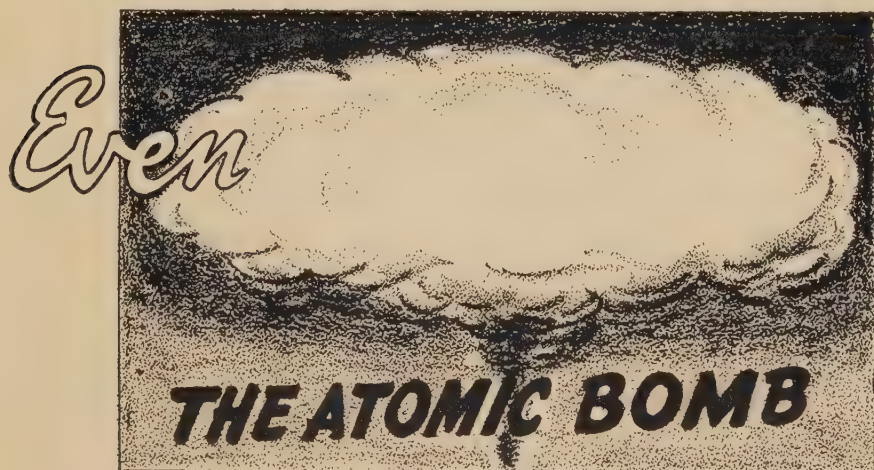
## Insurance Benefits

**Y**OU are entitled to take out Veteran's Administration insurance when you are in the Army. This insurance may be converted into wall paper or paid off in monthly installments to 240 people under the age of 30 or 120 people over 30. It may also be converted to 20-Life Payment Policy, thereby insuring you, your wife and two cats."

The above was shoplifted from "Hell on Wheels," publication of the famous Second Armored Division. The paper was sent to us from Germany by Ward A. Combs of Omaha. The humor is typically American.

## No Union Activities During Working Hours

You can make an agreement with the union in your plant, requiring a union representative to abandon union activities during working hours, without violating the Wagner Act. At least NLRB upheld one management-union agreement that required a key employe to devote his full working time to his production job.



COULD HARDLY ACHIEVE MORE SWEEPING KILLS  
OF GRANARY PESTS, than those delivered by

# Larvacide

CHLORPICRIN

**LOWEST COST ON RECORD**—For weevil and other insects, ONLY \$1.50-1.70 PER THOUSAND BUSHEL—in closed concrete bins.

**EASIEST TO APPLY**—we've heard about! No expensive applicators. Treat infested grain arriving or in turning.

**FOR SHALLOW BINS**—not conveniently turned, use LARVACIDE 15-Mix. Spray or sprinkle onto grain surface.

**BOTH FORMS OF LARVACIDE** are toxic to every kind of granary pest.

**RODENTS**—need special attention at this season. Larvacide in light, economical dosage with overnight exposure, kills rats without carcass nuisance.



**FOR SMALL WORK**—Handy 1-lb. Dispenser Bottles, each in sealed can, 12 to case.

**FOR BIGGER JOBS**—Cylinders, 25, 50, 100 and 180 lbs.

Stocked in major cities. Write for help with any especially tough central problem you may have. In any case, send for literature on Better, Lower Cost Pest Control.

**INNIS, SPEIDEN & CO.**  
117 LIBERTY STREET • NEW YORK 6

BOSTON • CHICAGO • CINCINNATI • CLEVELAND • OMAHA • PHILADELPHIA  
Canadian Representatives and Stock Points  
STRONG-SCOTT MFG. CO., Ltd., Toronto, Winnipeg, Calgary



## SAFETY RULES

### Warehouse and Docks

1. Use your legs when lifting, not your back.
2. Never put wire straps on doors to freight cars without wearing ing gloves.
3. Remove all projecting nails and splinters before beginning to unpack materials or open barrels, etc.
4. Keep floor openings covered when not cutting in grain.
5. Keep all aisles clear. Notify foreman when aisles or gangways become blocked up. Do not pile material in gangways or around fire exits.
6. Pile materials securely where they cannot fall.
7. Never push a hand truck "blind." Watch your knuckles on the walls.
8. When hand trucking be alert for slippery or uneven spots on the floor. Watch out for spilled grain on the floor.
9. Always look in the direction you are walking. Be careful of the other fellow. Avoid taking unnecessary chances. Carry only what you can handle easily.
10. Loose or long trouser cuffs are dangerous. Badly worn or ill-fitting shoes with loose laces are unsafe. Wear proper clothing for the job you are doing.
11. Always get first-aid for every cut or scratch no matter how slight. Remember, most infections start from small scratches.
12. Keep all oil, grease, grain, water or any other material that might cause slipping or stumbling cleaned up off the floor at all times.
13. Never push waste, scraps, or rubbish into corners. Help keep your department clean.
14. Never use boxes, benches, or other makeshifts instead of ladders. Never use broken ladders or one without safety spikes or rubber stops.
15. Never use any tool in such a way that if the tool slips it can injure hand or body.
16. Do not remove guards or other safety devices unless necessary, then replace them before resuming operations.

—ALBERS MILLING CO.

There are two kinds of politeness; one says, "See how polite I am"; the other, "I would make you happy."—Tomlinson.

## HUMAN MAINTENANCE

The Selective Service physical examinations and the facts they presented come as a challenge for a definite physical fitness and human maintenance program in peacetime.

The casualties of war and our general accidents are going to give us all too many handicapped individuals. We must see to it that this is offset by a program that will become a national objective.

Rejects from military duty, absenteeism, and accidents in our industries indicate our weak spots. The unnecessary headaches, pain, suffering, disease and death, to say nothing of the tremendous loss of time and money should be incentive enough to bring decision.

All kinds of information is available dealing with physical development, nutrition, disease prevention. The problem is, have we will-power enough to get into physical condition to stay there? How about working out now a fitness and health program for yourself, for your home and for the place you work?—William F. Schaediger, retired, Corn Products Refining Co., North Bergen, N. J.



## All in favor raise right hands ... *with wallets*

**Naturally we want** our boys home.

But how much are we willing to do about it?

Are we willing to pay for bringing them back? If we are, we'll buy *extra* Bonds in the Victory Loan.

And after these fellows get home—what then?

**We want to take care** of the injured ones, of course. We want to give our boys a chance to finish their education. We want to see that there are plenty of decent jobs for them.

How much are we willing to do about that?

If we're really serious about wanting to see that our men get what they have so richly earned, we'll buy *extra* Bonds in the Victory Loan.

**Now's the time.** Let's have a show of hands—with wallets—to prove how much we really want to hear that familiar voice yelling "It's me!" Let's prove, with pocketbooks, that we can do our job as well as they did theirs.

**THEY FINISHED THEIR JOB—  
LET'S FINISH OURS!**



This is an official U. S. Treasury advertisement—prepared under auspices of Treasury Department and War Advertising Council



## ARGENTINA FLAX CROP OFF

The smallest flaxseed crop since 1921-22, with the exception of last year, will be harvested in Argentina. Estimates total 39,486,000 bu compared with 55,154,000 bu forecast previously and the 1930-39 average of 66,958,000 bu. Crop deterioration from high temperatures, heavy winds, hail and insects will this year cost Argentina her position as the world's leading producer and exporter of flax. During the 1930-39 period it accounted for four-fifths of world exports, with an average of 60,000,000 bu.

## CARLOADINGS STRONG DESPITE SHORTAGES

Cars loaded with grain and grain products during the past period have continued surprisingly high, and were for the weeks ending:

	1945	1944	1943
Sept. 15 .....	59,509	50,128	54,124
Sept. 22 .....	55,624	49,832	53,214
Sept. 29 .....	53,912	50,012	53,496
Oct. 6 .....	52,025	45,448	59,523

*Speaking much is a sign of vanity; for he that is lavish in words, is a niggard in deed.—Sir W. Raleigh.*

## GRAIN MOVEMENT BREAKS ALL RECORDS; ICC & ODT TO PROVIDE MORE CARS

Definite measures to overcome an evident postwar let-down in the expeditious handling of freight cars were announced recently by the ODT in an effort to relieve the continuing serious box car shortage in the Grain Belt.

Movement of grain to elevators and mills, and for export to relieve distress in Europe is being delayed, ODT said, in spite of the fact that in the first 40 weeks of 1945 more grain and grain products were hauled than during any past corresponding period.

As a means to effective action, ICC service agents are making a survey of shippers and rail carriers to determine the precise extent to which railroads and shippers are at this time failing to make the requisite prompt movement, loading and unloading of freight cars. If it is found that shippers or receivers do not load or unload cars within a reasonable time and that cars are not moved in accordance with the present loading requirements, appropriate measures will be taken to insure promptitude.

## FOREIGN DEMAND TO INCREASE

The supply of wheat flowing from the U. S. and Canada to the United Kingdom has been of concern for some time, owing to the great increase in the demand from areas liberated this past year and to the very low crop yields in 1945 in most producing areas outside of the North American continent, according to USDA Secretary Anderson.

Every possible means of mobilizing to the fullest extent the available world supplies and economizing where possible the use of cereals is necessary, inasmuch as available supplies during the first half of 1946 are expected to fall substantially short of desired import requirements of Europe and Far East users. Since in many countries cereals comprise as much as half of the current food intake, special programs to provide transportation for the movement of as much wheat as can possibly be moved are in operation.

UNRRA bought 25,160,000 bu. wheat in the U. S. from August through December, and 1,650,000 bu. rye. In Canada UNRRA bought 10,650,000 bu wheat.

*There is a majesty in simplicity which is far above the quaintness of wit.—Pope.*

*The more we study, the more we discover our ignorance.—Shelley.*

## WHY NOT CASH IN . . .



. . . on the forty years of "know-how" reflected in . . .

**BLACK REXALL BELTING**, made expressly for heavy-duty elevator legs and conveyors, and . . .

**STANDARD REXALL BELTING** for bag-conveyors.

**PROMPT SERVICE!**

**PREWAR QUALITY!**

**LOW ULTIMATE COST!**

## IMPERIAL BELTING COMPANY

1750 S. Kilbourn

Chicago 23



## TO RESTRICT WHEAT MOVEMENT

A strict marketing-and-use order on remaining 1945 crop wheat is said to be under consideration by USDA's PMA. Rationing domestic users of the wheat remaining after export pledges are met is probable.

## SMALL EXPORT BUSINESS

There is a small export business being done here, but it is through government channels. Grain men, however, are hopeful.—Robert G. Hunt, Tacoma, Wash.

## CONSIDERING HIGHER EXTRACTION

In order to conserve domestic wheat supplies, as high as 85% extraction of flour, both for domestic and export business, are believed to be under consideration by federal officials. Furthermore, exportation of wheat would be permitted only to nations which are now extracting flour at this same high rate.

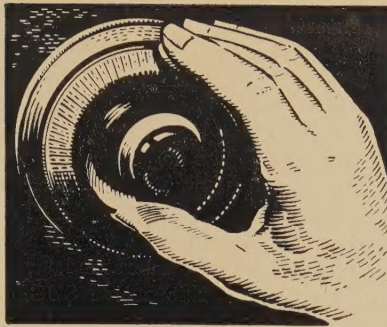
## WHEAT GRIND OFF

During September 1,036 mills ground 51,885,131 bu wheat, as compared with 54,459,964 ground by 1,034 mills during August, and 46,462,958 bu ground by 1,010 mills during the corresponding month a year ago.

## WHEAT SHIP SINKS

A stray mine outside Trieste harbor caused the sinking of a Liberty ship carrying 8,500 tons of American wheat destined for Austria. The vessel sank while being towed to a wharf.

## The Eager Beaver

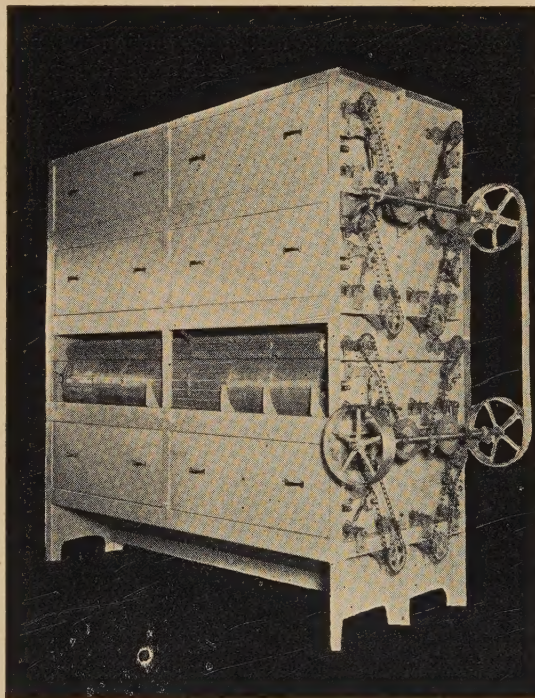
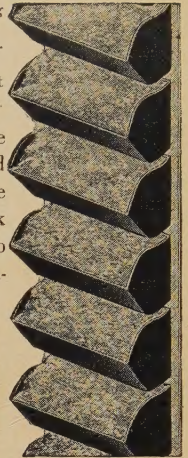


## THE *Right* COMBINATION FOR BUCKET EFFICIENCY

1. Scientific Design.
2. Smoother Pick-up.
3. Perfect Discharge.
4. Greater Load Carrying Ability.
5. Back-legging Elimination.
6. Belt Speed and Bucket Spacing Flexibility.



"Nu-Hy" Buckets on your belt give elevator legs up to 100% more capacity—contour construction makes for better bucket spacing and full bucket loads. High sides and high front lips prevent spillage—buckets dip into grain gently—no steam shovel attack to break grain or cause excessive wear on the belt. It will pay you well to get our Capacity Analysis Form No. 76 . . . and our recommendations that follow. There is no obligation for this service.



## ANNOUNCING the New, Improved PRINZ GRADING REELS

for Barley—Wheat—Oats

Scientifically designed to separate the kernels according to size. Results are positive—No chance for variation.

Five separations possible at one time.

Always a good money-maker. Ask your neighbors about it. And get your order in today for delivery next season.

Order from

**PRINZ & RAU**  
Manufacturing Co.

1301 N. Water St.,  
Milwaukee, Wis.

## MUST BE GOOD!

Yes, it has to be good to have the enviable record of performance EARNED by HYDROZO Mineral Water Proofing.

Before You Waterproof Your Properties, Investigate the Success HYDROZO Enjoys

**Hydrozo Products Company**

SALES OFFICE

2306 University Avenue Madison 5, Wisconsin



## LADIES TO HAVE INNING

That long looked forward to date for the Chicago SOGES Chapter "Ladies' Night" has been set, according to E. R. Anderson of Norris Grain Company, and most of the details worked out. Saturday evening, March 9th will witness 150 or more of the members and their ladies gathered at Tracy's in the Stevens Building, popular "loop" eating spot, for their annual dinner-dance, with plenty of entertainment thrown in.

The committee in charge is meeting regularly to iron out the many details to assure one of the best "shindigs" yet. Combined with Ladies' Night will be the yearly "Gilane Frolics" inaugurated some time ago by Gilbert P. Lane of Arcady Farms Milling Co., a past chapter and national president, and currently a director. Many are expected from nearby and other chapters, as usual.

## TWIN CITY LADIES OUT

Ladies' Night in Minneapolis is scheduled for February 9th, according to word from Chapter Secretary Jim Auld of Hales & Hunter Company. One of the biggest events on the group's calendar, close to 200 are expected this year, including many from Duluth, Ft. William, Chicago,

as well as nearby points. Dancing and entertainment hold a prominent place in the evening's program.

## FORGOT A PICTURE

Unfortunately we neglected to have a picture taken of our highly successful Ladies' Night party held earlier this month. Regardless, it was one of the best affairs, I understand, that was ever held by this active SOGES Chapter. From all indications I believe our group will chalk up the greatest strides of any, for everyone enjoys working eagerly and we can literally "feel" the progress we make from month to month.—Bernard E. Friel, Kansas City Chapter Secretary.

## HOLD UP CONVENTION AWHILE

I note with interest the thought that the SOGES might return to either Buffalo or Fort William in June of 1946; also of your intention to contact the directors about trying to hold a convention before then. Personally, I think we should forego any attempt to hold a convention just now, as the transportation of the nation will undoubtedly be taxed to capacity bringing back troops and materials of war. I shall look forward, however, to the convention next June and an opportunity of again spending some

little time with you and my other good friends in the Society.—Charles J. Winters, Supt., Public Grain Elevator, New Orleans.

## EXPECTS SOGES CONVENTION

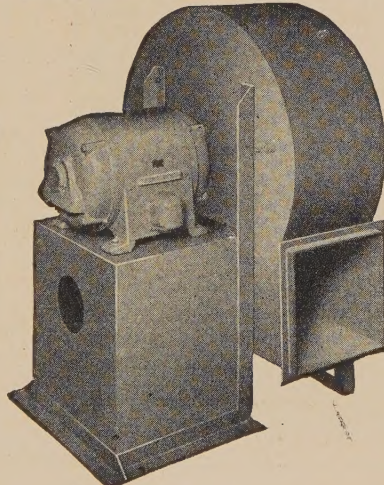
With V-J Day now history no doubt we will hear from you concerning an SOGES convention, possibly this coming fall. If anything new develops that I can be of help on, do not hesitate to call upon me.—Ed Fraunheim, Buffalo.

[Conventions of over 150 are still banned and will continue to be for at least the next 60 days, and probably until after the turn of the year, according to word from SOGES President Herbert C. Brand of Quaker Oats Co., Cedar Rapids. Furthermore, President Brand points out, it is questionable from his correspondence that very many would be able to attend during the balance of this year because of sustained activity demanding their attention at their respective plants. While this situation may change upon a moment's notice, it still takes a minimum of four months to properly work up the many details of an SOGES convention, so to set a date now with conditions so uncertain would be an unwise gamble that the Directors do not wish to take, he points out.]

## "GENERAL" BLOWERS AND EXHAUSTERS

Improved designs of  
all types for every

## ELEVATOR AND MILL SERVICE



Steel Plate Exhauster

### Steel Plate Blowers and Exhausters—

For air moving material handling.

### Disc and Propeller Fans—

For ventilation and dust disposal.

### Industrial Vacuum Cleaners—

For dust and spillage pick-up.

### Roof Ventilators—

In rotary and stationary styles.

## GENERAL BLOWER CO.

Engineers and Manufacturers

Factory and Offices  
8604 Ferris Ave.  
MORTON GROVE, ILL.

District Sales  
506 N. Dearborn St.  
CHICAGO 10, ILL.



M-155

"WE JUST DON'T WANT ANYTHING TO HAPPEN TO YOU"

Thank You  
FOR OWI



**ABSURDLY LOW  
DOSAGES DO *Not*  
MEAN LOW  
*Treating* COST**

## **A WORTH "FRAMING" FACT . . .**

No one knows this better than the man who has treated grain for years with various products. He has had his experience with low dosages. He knows that low dosage recommendations usually represent the most expensive procedure in the long run.

Admittedly, there is a temp-

tation for a manufacturer to advocate minimum dosages ...to take best performances under ideal conditions as normal. Low dosages, and therefore low unit costs, look well "on paper".

One of the strongest factors in the success of Weevil-Cide has been the recommendation of adequate dosages to cover various conditions.



**THE**

***Weevil-Cide***

**THE DEPENDABLE GRAIN FUMIGANT**

**COMPANY**

**1110 HICKORY STREET  
KANSAS CITY, MO.**



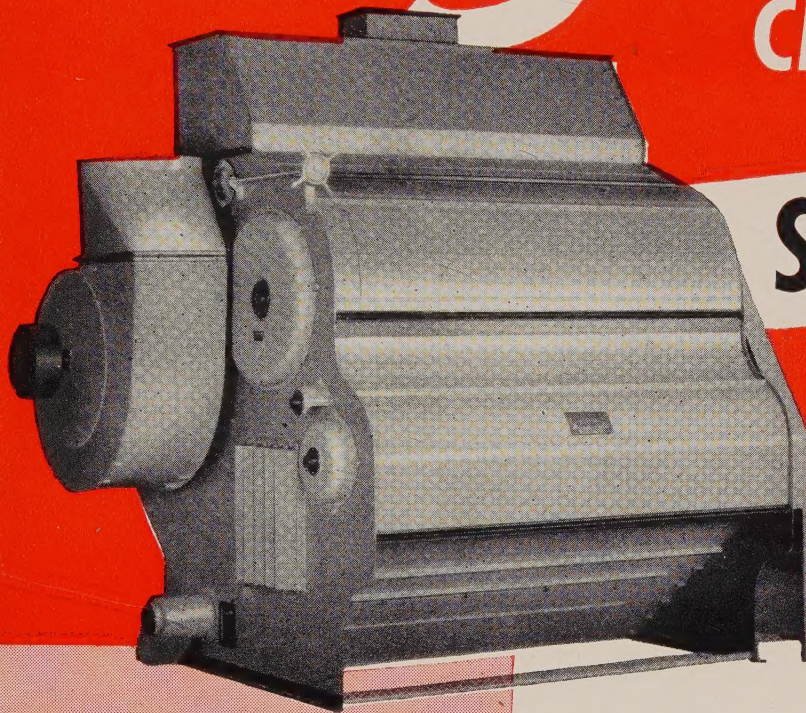
*Provides*

**Unusual Efficiency and Capacity**

**FOR 3 BASIC JOBS**

*Choose the CARTER*

**SCALPERATOR**



- 1 For Rough Scalping**
- 2 For Aspiration**
- 3 For Aerating**

## **HAS WIDE APPLICATION Throughout the Grain Industry**

Here is a machine that offers real savings in power and maintenance while providing extra capacity and efficiency in results. The Carter Scalperator is widely used throughout the grain and milling industry. It is thorough and efficient in rough scalping and aspirating grain as it is unloaded ahead of storage and in turning and aerating grain being held in storage. It has proven particularly valuable ahead of grain drying operations. The Carter Scalperator is in extensive use in terminals, in service elevators of flour and cereal mills, in malting plants, soy bean plants, rice mills and feed manufacturing plants. The power requirements are low. Roughage is completely scalped off without loss of good grain. The Carter Scalperator is available in either open or closed circuit models.

Write for catalog information now.

### **Small Maintenance**

Although large in capacity, the Carter Scalperator uses a minimum of power and requires very little maintenance at any time. All drives are simple and easily accessible.

### **No Attention Needed**

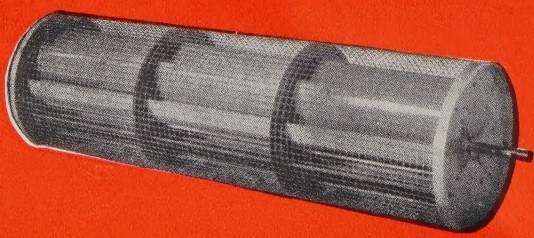
Scalping reels are self-cleaning and operation of the machine is practically automatic. Once adjusted to do a specific job it will handle thousands of bushels with no further attention on the part of the operator.

### **All-Steel, All-Enclosed**

No fire hazard—extra strength and durability! Fits crowded working conditions and because of large capacity very often releases valuable space for other use.

### **Entirely Rotary, No Vibration**

There are very few moving parts in the entire machine—all rotary. The result is extremely smooth operation with no vibration.



**HART-CARTER  
COMPANY**

670 — 19th Ave., N. E., Minneapolis 13, Minn.